

Published: October 2003, presentation Hamburg Depleted Uranium Conference

The Medical Investigation into the Bijlmermeer Aviation Disaster and depleted uranium

The risks of depleted uranium (DU) are primarily determined by its presence in finely sized dust particles. This is the case when DU weapons have been used on the battlefield and when pieces of DU metal are burned under certain conditions. This last scenario happens when a plane with DU counterweights or balance weights crashes. A kerosene fire can easily reach temperatures up to 1200 degrees centigrade and bars of DU counterweights burn at temperatures from 500 degrees centigrade. Micro particles dispersed in smoke plumes can be inhaled or ingested by bystanders and lead to internal contamination. Target organs are the lung, the kidney and finally the bones. DU poisoning can cause a whole fan of ailments, including a disturbed immune system, autoimmune diseases, and tumours.

On October 4, 1992, an El Al Boeing 747 crashed in Amsterdam's Southeast district Bijlmermeer. During the nineties questions remained about the cause of the crash, health problems among citizens and rescue workers, the exact cargo, DU counterweights, and other issues. At the beginning of 1999 a Parliamentary Inquiry Commission was started to resolve these questions. One of the Bijlmer crash issues was the presence of DU in the plane. According to Boeing and El Al a total of 282 kilograms was constructed in the plane's tail wings. Laka made the presence of DU public in October 1993 after which a discussion started on the potential burning of the DU aboard and the risks for citizens and rescue workers. In 1998 Laka forced the researchers of the Energy Research Centre (ECN), based on literature from US Army research, to admit that the still missing 152kg of DU could have been burnt.

At the beginning of February 1999 the public hearings lead to unrest among the fire and police personnel and other rescue workers about the health risks. But also among employees of KLM NV who worked for many years in the vicinity of the aircraft wreckage hangar 8 at Schiphol East, the place where the presence of DU dust was proved in 1999. The starting point is the recommendation of the Parliamentary Enquiry Commission is: to launch a study among the residents and helpers by a team of specialists, to make an extensive examination into all health symptoms which those involved attribute to the Bijlmer disaster. The study has to lead to a treatment recommendation for those involved and their relevant family doctors or specialists. At the insistence of the fire service works council, the City of Amsterdam also agrees to a scientific study among its staff. The Minister of Health then joins in, so that there will also be a scientific study among the residents. The Medical Investigation into the Bijlmermeer Aviation Disaster (MOVb) is a fact. It consists of three parts: an Individual Medical Examination, an Epidemiological Study of Helpers and an Epidemiological Study of Residents. At a later stage the Effects Study is added. The health, safety and environment organisation KLM Arbo Services develops the study protocols, including the protocol for the medical investigation into DU poisoning. There are four principals: the Ministry of Health, the City of Amsterdam, the District Amsterdam Southeast and KLM. The Free University Medical Centre, the Catholic hospital OLVG, the EMGO Institute for Extramural Medical Study and the Leiden University Medical Centre are carrying out the execution. The first participant is examined on January 3rd 2000. Meanwhile it became clear that the protocol for medical tests on DU show a lot of shortcomings. Valuable advises from independent experts were not included. For example KLM Arbo Services refuses to carry out an isotope analysis. And they were not aware that analysing only urine- and blood samples is by far not enough to prove internal contamination with DU dust particles after more than six years of exposure.

Within the framework of the Individual Medical Examination more than 5000 people had announced themselves for the examination. Beside it at least 4000 people should be examined within the framework of the epidemiological study. The voluntary participants were asked to fill in some questionnaires. There should be taken off samples of blood and urine and there should be done an examination of the lung function. On 26 June 2001, the residents were horrified by the announcement of the Administrative Board of the district Southeast, along with Minister of Health, that the epidemiological study among the residents had to be stopped. According to the Administrative Board the numbers were insufficient, especially in the control group, to meet the strict scientific requirements of the Institute for Extramural Medical Study of the Free University of Amsterdam. The actual participation of residents was relatively high. But given the norm requirements necessary to arrive at a valid scientific conclusion, the participation of residents is insufficiently representative. However, resident organisations and others have serious doubts about the efforts of the Board in finding sufficient proper participants for the control group. After the cancelling of the Epidemiological Study for the residents the Health minister stated that the residents have to wait for the publication of the Epidemiological Study among the Care Providers and that they could take warning from this outcome. Later this statement was denied. Alongside an Individual Medical Examination, research was needed into any possible link between the health complaints and the disaster. Thus the Epidemiological Study of Care Providers was carried out. It could be completed, because in this case there were sufficient participants.

The cancelling of the epidemiological study among the residents means also the cancelling of the medical investigation into the possible DU poisoning among the residents. In April 2002 the Minister of Health introduces the so-called FISH test as a screening for internal DU contamination for all the victims of the disaster. In fact this is only meant to keep the residents quiet. The FISH test is able to determine deformities in the genes, however these possible deformities haven't to be caused necessarily by DU. Besides DU a lot of other toxic substances were involved, which haven't been subjected to toxicological investigation as well. Some of them have also the ability to cause genetic mutations. It would be better to replace this test by more accurate tests. Just like the tests for other toxic substance involved. Finally the ten most ill care providers and ten residents should be tested with the FISH technique. So far it didn't take place. Just like an in-depth examination into internal contamination with DU and an isotope analysis.

Despaired by the cancelling of the Epidemiological Study many residents with illnesses for which they want to be treated visit private laboratories in order to know what kind of toxic substances they have in their bodies. This has led to tragic incidents among the mostly low-income residents. Residents, who have tried to find the proof of their illnesses, undergo tests at laboratories, which are not recognised by the Dutch health insurance companies and do not reimburse the high costs. Another sad happening is to make the things worse than they already are. This is the case in the debate about the infection with pathogen mycoplasmas (something between a virus and a bacterium). In January 1999 a team of residents visits the Medical Institute for Molecular Medicine in Los Angeles from Prof. Dr. Garth Nicolson. Afterwards they tell everyone that there was an infection with a genetic manipulated mycoplasma, which was involved in the plane crash. However, there is not a single study known which substantiates this claim. It's clear that the Dutch government has made many mistakes in the aftermath of the plane crash and that they are not interested to carry out a proper health investigation. However, the way of acting from some people who claim to represent the residents do not deserve a prize.

Finally on 21 June 2002, the Individual Examination on Bijlmer disaster, along with the Epidemiological Study of Care Providers was completed. The results were made public on 19 February 2003 in the Amsterdam City Hall. Between January 2000 and March 2002 a total of 4806 residents and care providers involved in the aviation disaster have been examined. The conclusion about the Epidemiological Study sounds: "Some of the care providers involved in the Bijlmer aviation disaster still exhibit more physical and psychological problems than those who were not involved. However no indications have been found that they have suffered more physical harm as a result of exposure to harmful substances." The last sentence is remarkable, because there hasn't been any in-depth toxicological research to support this statement. The toxicologist dr.ir. Gerrit de Mik, Sector-Chief of the Dutch State Institute on Health and Environment (RIVM) and the involved expert on DU is asked in a text on the website of the MOVB: "What is the treatment of people who are exposed to DU?." His answer is: "They are not treated. DU behaves the same as natural uranium in the body. Depending of the compound in which uranium is taken up, it leaves after a short or long period the body via the urine or faeces and the isotope ratio becomes the same again as that of natural uranium."

Many stories of residents about the individual health examinations and their subsequent examination by the family doctor present remarkable insights. For example, Mrs. A.W. appeared to have a lung cancer four months after her examination by the physicians of the MOVB and died six months after the discovery of her terminal illness. The written statement of the MOVB is that searching for cancer was not involved in the protocol. So, it is no wonder that the victims of the Amsterdam plane crash do not have much trust in the intentions of scientists who have carried out the Medical Investigation into the Bijlmermeer Aviation Disaster.

Over 20 per cent of the participants were advised to have their family doctor refer them to the Bijlmermeer Aviation Disaster Aftercare Advisory and Treatment Centre (ABC), which specialises particularly in Unexplained Physical Symptoms (UPS) and Post-Traumatic Stress Syndrome (PTSS)

Residents could also visit this centre for the restriction of and how to deal with UPS.

Considering the continuing statements of physicians and medical researchers in the Netherlands to ascribe all the symptoms of illnesses among the victims to PTSS and other psychic disorders, the figure of PTSS seems rather low. Possible links with poisoning by toxic substances are consequently ignored. The KLM employees who have worked in hangar 8 show similar symptoms as the residents and the care providers, however they were not involved in the plane crash. Surprisingly they score high on PTSS.

Around 2,500 people (staff of the fire department, police and Hangar 8) took part in the Epidemiological Study. Participants in the Epidemiological Study of Care Providers included care providers from the Amsterdam fire department, from the Amsterdam police, and the hangar 8 staff. Complaints investigated included chronic coughs, skin complaints, fatigue and concentration problems. According to the medical investigators other (volunteer) care providers could not be included in the study, because "it is impossible to assemble a comparison group, which had not experienced the disaster."

Following intensive recruitment procedures the data could be processed from 528 fire department employees from Amsterdam's professional fire brigade, 1468 police employees from the Amsterdam regional force, and 503 hangar staff. The Epidemiological Study showed that some seven years after the disaster, a selection of those participants involved demonstrated more physical and psychological symptoms than those not involved. Examples

of these complaints are: skin rashes, joint problems, low back pain, fatigue, chronic coughing, shortness of breath, concentration problems, a disturbed immune system, and depression. Hence at group level an association has been demonstrated between these complaints and the disaster. No increased levels of substances such as carnitine and uranium were found in the blood and urine. No mycoplasma was detected in the blood of any of the participants.

Afterwards it appeared that carnitine and pathogen mycoplasmas were found in blood samples from residents and hangar 8 workers which were taken by private laboratories. Other laboratories proved a significant increase in the presence of heavy metals, such as lead and palladium in the bodies of ill residents. Also the investigators mention nothing about the possible relationship between the rise in autoimmune diseases and the possible contamination with DU. During the hearings of the Parliamentary Inquiry professor Weenink made clear this relationship and the Inquiry Commission wrote in their conclusions on the health problems: "The Commission can't rule out that the large number of cases of – possibly – autoimmune diseases are connected with the disaster."

The Effect Study among the employees of the Amsterdam police, firebrigade and hangar 8 is still going on and is to be expected to appear around April 2004.

The story of the victims of the Amsterdam plane crash is very similar to the stories of the Gulf War Veterans and the Veterans of the Balkan Wars. Their illnesses are not recognised by the governmental institutions and serious medical investigations are not forthcoming. A depressing situation, because they have no medical treatment. The situation of the Iraqi citizens is much worse. Many of them are living daily in the toxic and radioactive rubble, without any chance to escape.

In the aftermath of the Iraq War from spring 2003 many new victims of DU will come up: many Iraqi civilians have had to pay their lives for the freedom, which president Bush promises; and a next generation of veterans with illnesses will return to their homelands. In order to prevent more victims in the future, a moratorium on the military use of DU is urgent.

Henk van der Keur, Laka Foundation (www.laka.org)
Ed Steur, victim and researcher of the Amsterdam Plane Crash